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DESCRIPTION OF INVENTION

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(54) DEVICE FOR THE TRAINING OF MUSCLES

(57) The invention makes it possible to increase the effectiveness of training of the rapid-force muscles by broadening the range of the muscles trained. The device contains a frame with guide pulleys and a pack of exchangeable weights with a cable encompassing the pulleys. The frame has vertical posts and a carriage with vibrator mounted on them. The carriage is connected to the pack of exchangeable weights, while the vibrator is connected to the cable. The cable is equipped with an element for interaction with the sportsperson, made for example in the form of a loop.

2 illustr.

The invention relates to sporting equipment, and in particular to training devices for the development of the rapid-force characteristics of muscles.

The purpose of the invention is to increase the effectiveness of training by broadening the muscles trained.

Fig.1 shows the device, seen from the front; Fig.2 likewise – the vibrator.

The device contains a frame 1 with guide pulleys 2 and a pack of exchangeable weights 3 with a cable 4, encompassing the pulleys 2, and an element 5 for interaction with the sportsperson, made, for example in the form of a loop.

The frame 1 contains vertical posts 6 and a carriage 7 mounted on them with the vibrator 8. The pack of weights 3 is connected to the carriage 7, and the cable 4 to the vibrator 8. The vibrator is equipped with a switch 9 and a plate transformer 10. The vibrator is for example constructed in the following way. Within the carriage 7, there is located an electric motor 11, connected by a belt transmission to an eccentric 13, equipped with a pusher 14 with an aperture 15 for attachment of the cable 4.

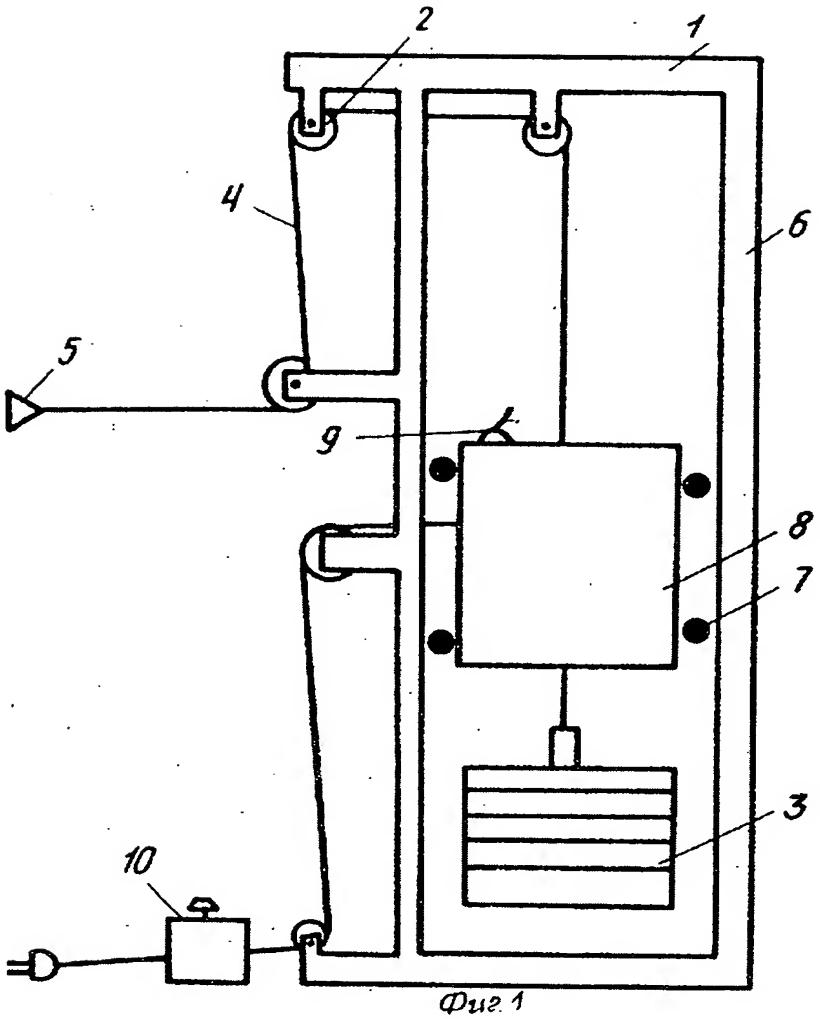
The device is used in the following way.

Depending on the fitness level of those exercising for training purposes, the necessary weight of the load is established. The vibrator is switched on using the switch 9. The vibration frequency is selected individually for each sportsperson using the transformer 10 and can be from 15 to 30 Hertz with an amplitude of 5-8 mm. Depending on the movement involved, the element 5 is attached to a defined part of the sportsperson's body (hand, foot). The sportsperson adopts the necessary position (lying, sitting, standing) and applies force to the element 5, as a result of which the load 3 rises by means of the cable 4 and movement of the carriage 4 takes place along the vertical posts 6. Under the action of the vibrator 8, the contracting muscle of the sportsperson will perforce lengthen to the extent of the amplitude of the vibrator 8 and with the set vibration frequency. After completion of the primary movement, the sportsperson effects a return to the initial position, implemented in a retreating regime which creates a supplementary training effect.

The training effect of the vibration makes it possible to intensify the blood-pumping function of the stimulated muscle and to increase by many times the proprioceptive impulsion arriving from the mechanoreceptors of the muscles, and also to model an intensive regime of muscle activity.

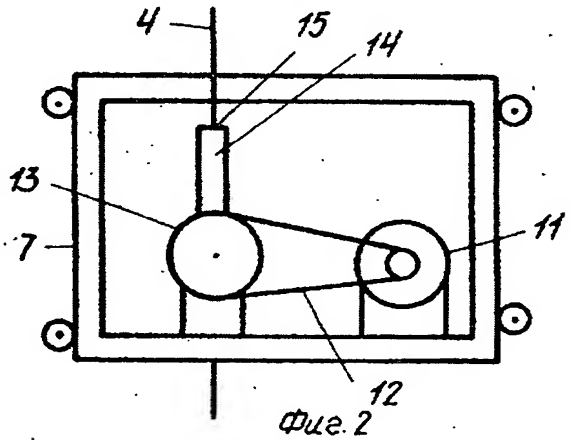
Claim

Device for the training of muscles, containing a frame with guide pulleys and a pack of exchangeable weights with a cable encompassing the pulleys and bearing at the free end an element for interaction with the sportsperson, characterised in that, in order to increase the effectiveness of training by broadening the muscles trained, it is equipped with a vibrator, mounted by means of a carriage between vertical posts of the frame, the pack of weights being connected to the carriage, and the cable to the vibrator.



Фиг. 1

Fig. 1



Фиг. 2

Fig. 2

Translator's Notes

[page and line numbers refer to original]

1. Page 1, § 57, lines 2-3: the adjective скоростно-силовых is used here to describe muscles and on page 2, col.1, line 4, to describe characteristics of muscles; since no definition could be found in the 6 dictionaries consulted, it has been translated literally as "rapid-force".
2. Page 2, col.1, line 9 and col.2, line 38: these do read "broadening the muscles trained", but comparison with § 57 suggests that the word meaning "range" (i.e. movement range) has possibly been omitted.
3. Page 2, col.1, line 24: the adjective латерный *laterny* describing the transformer appears in none of the dictionaries consulted, and is possibly a misprint. "plate" is a suggestion.
4. Page 2, col.2, line 9: the carriage is numbered 4 in the text, and this has been reproduced in the translation. However, elsewhere it is numbered 7.